

4.0 Rec'd PCT/PTO 14 APR 2000

## SEQUENCE LISTING

## (1) GENERAL INFORMATION:

## (i) APPLICANT:

- (A) NAME: Wolf-Georg Forssmann
- (B) STREET: Fedor-Lynen-Strasse 31
- (C) CITY: Hannover
- (E) COUNTRY: Germany
- (F) POSTAL CODE: 30625

(ii) TITLE OF THE INVENTION: Cadherin derived growth factor and its use

(iii) NUMBER OF SEQUENCES: 14

## (iv) COMPUTER READABLE FORM:

- (A) MEDIUM TYPE: Floppy disk
- (B) COMPUTER: IBM PC compatible
- (C) OPERATING SYSTEM: PC-DOS/MS-DOS
- (D) SOFTWARE: Patent In Release #1.0, Version #1.30 (EPA)

## (2) INFORMATION FOR SEQ ID NO: 1:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 123 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

Cys His Pro Gly Phe Asp Ala Glu Ser Tyr Thr Phe Thr Val Pro Arg  
1 5 10 15

Arg His Leu Glu Arg Gly Arg Val Leu Gly Arg Val Asn Phe Cys Thr  
20 25 30

Gly Arg Gln Arg Thr Ala Tyr Phe Ser Leu Asp Thr Arg Phe Lys Val  
35 40 45

Gly Thr Asp Gly Val Ile Thr Val Lys Arg Pro Leu Arg Phe His Asn  
50 55 60

Pro Gln Ile His Phe Leu Val Tyr Ala Trp Asp Ser Thr Tyr Arg Lys  
65 70 75 80

Phe Ser Thr Lys Val Thr Leu Asn Gly His His His Arg Pro Pro Pro  
85 90 95

Sub  
B1

His Gln Ala Ser Val Ser Gly Ile Gln Ala Glu Leu Leu Thr Phe Pro  
 100 105 110

Asn Ser Ser Pro Gly Leu Arg Arg Gln Lys Arg  
 115 120

(2) INFORMATION FOR SEQ ID NO: 2:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 132 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

Glu	Ala	Ser	Gly	Glu	Ile	Ala	Leu	Cys	Lys	Thr	Gly	Phe	Pro	Glu	Asp	1	5	10	15
Val	Tyr	Ser	Ala	Val	Leu	Ser	Lys	Asp	Val	His	Glu	Gly	Gln	Pro	Leu	20	25	30	
Leu	Asn	Val	Phe	Ser	Asn	Cys	Asn	Gly	Lys	Arg	Lys	Val	Gln	Tyr	Glu	35	40	45	
Ser	Ser	Glu	Pro	Ala	Asp	Phe	Lys	Val	Asp	Glu	Asp	Gly	Met	Val	Tyr	50	55	60	
Ala	Val	Arg	Ser	Phe	Pro	Leu	Ser	Ser	Glu	His	Ala	Lys	Phe	Leu	Ile	65	70	75	80
Tyr	Ala	Gln	Asp	Lys	Glu	Thr	Gln	Glu	Lys	Trp	Gln	Lys	Leu	Ser	Leu	85	90	95	
Lys	Pro	Thr	Leu	Thr	Glu	Glu	Ser	Val	Lys	Glu	Ser	Ala	Glu	Val	Glu	100	105	110	
Glu	Ile	Val	Phe	Pro	Arg	Gln	Phe	Ser	Lys	His	Ser	Gly	His	Leu	Gln	115	120	125	
Arg	Gln	Lys	Arg													130			

(2) INFORMATION FOR SEQ ID NO: 3:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 78 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

Cys	Arg	Ala	Val	Phe	Arg	Glu	Ala	Glu	Val	Thr	Leu	Glu	Ala	Gly	Gly
1				5						10					15
Ala	Glu	Gln	Glu	Pro	Gly	Gln	Ala	Leu	Gly	Lys	Val	Phe	Met	Gly	Gln
			20						25					30	
Glu	Pro	Ala	Leu	Phe	Ser	Thr	Asp	Asn	Asp	Asp	Phe	Thr	Val	Arg	Asn
		35					40					45			
Gly	Glu	Thr	Val	Gln	Glu	Arg	Arg	Ser	Leu	Lys	Glu	Arg	Asn	Pro	Leu
		50				55					60				
Lys	Ile	Phe	Pro	Ser	Lys	Arg	Ile	Leu	Arg	Arg	His	Lys	Arg		
65					70						75				

(2) INFORMATION FOR SEQ ID NO: 4:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 144 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

His	Asn	Glu	Asp	Leu	Thr	Thr	Arg	Glu	Thr	Cys	Lys	Ala	Gly	Phe	Ser
1				5						10				15	
Glu	Asp	Asp	Tyr	Thr	Ala	Leu	Ile	Ser	Gln	Asn	Ile	Leu	Glu	Gly	Glu
			20					25				30			
Lys	Leu	Leu	Gln	Val	Lys	Ser	Ser	Cys	Val	Gly	Thr	Lys	Gly	Thr	Gln
		35					40					45			
Tyr	Glu	Thr	Asn	Ser	Met	Asp	Phe	Lys	Gly	Ala	Asp	Gly	Thr	Val	Phe
	50				55					60					
Ala	Thr	Arg	Glu	Leu	Gln	Val	Pro	Ser	Glu	Gln	Val	Ala	Phe	Thr	Val
65				70						75				80	
Thr	Ala	Trp	Asp	Ser	Gln	Thr	Ala	Glu	Lys	Trp	Asp	Ala	Val	Leu	Val
			85						90				95		
Ala	Gln	Thr	Ser	Ser	Pro	His	Ser	Gly	His	Lys	Pro	Gln	Lys	Gly	Lys
		100						105				110			
Lys	Val	Val	Ala	Leu	Asp	Pro	Ser	Pro	Pro	Pro	Lys	Asp	Thr	Leu	Leu
		115					120					125			
Pro	Trp	Pro	Gln	His	Gln	Asn	Ala	Asn	Gly	Leu	Arg	Arg	Arg	Lys	Arg
130					135							140			



## (2) INFORMATION FOR SEQ ID NO: 5:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 Amino acids

(B) TYPE: Amino acid

(C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

Ala Gly Ala Asn Pro Ala Gln Arg Asp Thr His Ser Leu Leu Pro Thr  
1 5 10 15  
His Arg Arg Gln Lys Arg  
20

## (2) INFORMATION FOR SEQ ID NO: 6:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 35 Amino acids

(B) TYPE: Amino acid

(C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

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Thr Leu Ser Thr Pro Leu Ser Lys Arg Thr Ser Gly Phe Pro Ala Lys
1          5          10          15
Lys Arg Ala Leu Glu Leu Ser Gly Asn Ser Lys Asn Glu Leu Asn Arg
          20          25          30
Ser Lys Arg
          35

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(2) INFORMATION FOR SEO ID NO: 7:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 33 Amino acids

(B) TYPE: Amino acid

(C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

Thr Leu Ser Thr Pro Leu Ser Lys Arg Thr Ser Gly Phe Pro Ala Lys  
1 5 10 15

Lys Arg Ala Leu Glu Leu Ser Gly Asn Ser Lys Asn Glu Leu Asn Arg  
 20 25 30  
 Ser

(2) INFORMATION FOR SEQ ID NO: 8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

Met Leu Leu Asp Leu Trp Thr Pro Leu Ile Ile Leu Trp Ile Thr Leu  
 1 5 10 15  
 Pro Pro Cys Ile Tyr Met Ala Pro Met Asn Gln Ser Gln Val Leu Met  
 20 25 30  
 Ser Gly Ser Pro Leu Glu Leu Asn Ser Leu Gly Glu Glu Gln Arg Ile  
 35 40 45  
 Leu Asn Arg Ser Lys Arg  
 50

(2) INFORMATION FOR SEQ ID NO: 9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown
- (D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

Phe Ala Pro Glu Arg Arg Gly His Leu Arg Pro Ser Phe His Gly His  
 1 5 10 15  
 His Glu Lys Gly Lys Glu Gly Gln Val Leu Gln Arg Ser Lys Arg  
 20 25 30

(2) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 26 Amino acids
- (B) TYPE: Amino acid
- (C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown  
(ii) MOLEKULE TYPE: Peptide  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:

Glu Arg Arg Gly His Leu Arg Pro Ser Phe His Gly His His Glu Lys  
1                    5                    10                    15  
Gly Lys Glu Gly Gln Val Leu Gln Arg Ser  
                  20                    25

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 31 Amino acids  
    (B) TYPE: Amino acid  
    (C) STRANDEDNESS: unknown  
    (D) TOPOLOGY: unknown  
(ii) MOLEKULE TYPE: Peptide  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

Gln Pro Gln Pro Gln Gln Thr Leu Ala Thr Glu Pro Arg Glu Asn Val  
1                    5                    10                    15  
Ile His Leu Pro Gly Gln Arg Ser His Phe Gln Arg Val Lys Arg  
                  20                    25                    30

(2) INFORMATION FOR SEQ ID NO: 12:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 29 Amino acids  
    (B) TYPE: Amino acid  
    (C) STRANDEDNESS: unknown  
    (D) TOPOLOGY: unknown  
(ii) MOLEKULE TYPE: Peptide  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

Gln Pro Gln Pro Gln Gln Thr Leu Ala Thr Glu Pro Arg Glu Asn Val  
1                    5                    10                    15  
Ile His Leu Pro Gly Gln Arg Ser His Phe Gln Arg Val  
                  20                    25

(2) INFORMATION FOR SEQ ID NO: 13:

(i) SEQUENCE CHARACTERISTICS:  
    (A) LENGTH: 129 Amino acids  
    (B) TYPE: Amino acid

(C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

Glu Asp Leu Asp Cys Thr Pro Gly Phe Gln Gln Lys Val Phe His Ile  
1 5 10 15  
Asn Gln Pro Ala Glu Phe Ile Glu Asp Gln Ser Ile Leu Asn Leu Thr  
20 25 30  
Phe Ser Asp Cys Lys Gly Asn Asp Lys Leu Arg Tyr Glu Val Ser Ser  
35 40 45  
Pro Tyr Phe Lys Val Asn Ser Asp Gly Gly Leu Val Ala Leu Arg Asn  
50 55 60  
Ile Thr Ala Val Gly Lys Thr Leu Phe Val His Ala Arg Thr Pro His  
65 70 75 80  
Ala Glu Phe Asp Met Ala Glu Leu Val Ile Val Gly Gly Lys Asp Ile  
85 90 95  
Ser Leu Gln Asp Ile Phe Lys Phe Ala Arg Thr Ser Pro Val Pro Arg  
100 105 110  
Gln Lys Arg Pro Ser Val Leu Leu Leu Ser Leu Phe Ser Leu Ala Cys  
115 120 125  
Leu

(2) INFORMATION FOR SEQ ID NO: 14:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 39 Amino acids

(B) TYPE: Amino acid

(C) STRANDEDNESS: unknown

(D) TOPOLOGY: unknown

(ii) MOLEKULE TYPE: Peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Val Pro Gly Trp Arg Arg Pro Thr Thr Leu Tyr Pro Trp Arg Arg Ala  
1 5 10 15  
Pro Ala Leu Ser Arg Val Arg Arg Ala Trp Val Ile Pro Pro Ile Ser  
20 25 30  
Val Ser Glu Asn His Lys Arg  
35